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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,616	02/28/2002	Deepak S. Turaga	020003	7072

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EXAMINER

REKSTAD, ERICK J

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/085,616

Applicant(s)

TURAGA ET AL.

Examiner

Erick Rekstad

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-14, 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 15-18 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This is a first action for application no. 10/085,616 filed on February 28, 2002 where in claims 1-20 are presented for examination.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6, 15-18 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Application Publication US2002/0196854 to Kim.

[claims 1, 2 and 6]

As shown in Figure 4, Kim teaches a method for making a mode decision (intra or inter) in video coding, comprising:

Collecting a first portion of a video data (down sampled frames) (Paragraph [0028]);

Labeling the first portion of video data with an optimal mode (intra or inter) (Paragraphs [0029] and [0079];

Identifying a feature of the first portion of video data corresponding to the optimal mode (Paragraphs [0053]-[0054] and [0081]-[0083]); and

Making a mode decision for a second portion (full frames) of the video data based on a value of the feature in the second portion of the video (Paragraphs [0079]-[0085]). Note that Kim teaches multiple modes (intra/inter, integer-pixel resolution estimation/half-pixel resolution estimation, and motion vector values) all of which are determined initially for the first portion (down sampled frames) and used in the second portion (full frame) to encode the frame more efficiently.

In regards to claim 2, Kim clearly teaches the first portion is a sample of the video data (Paragraph [0026] and [0028]).

[claims 3 and 4]

As shown in Figure 4, Kim teaches the use of a scene analyzer to produce encoder parameters that approximate the encoder parameters obtainable from the full-sample video frame (Paragraph [0047]). Specifically, Kim teaches the training feature vector called motion classification logic variable (strictly static, quasi-static and non-static) (Paragraph [0053]). The feature space (macroblocks) is partitioned based on the static variable which is based on equations formed from a transformation of the feature space and construction of a probabilistic model of the feature space (Paragraphs [0051]-[0053]).

[claims 15, 16, and 18]

As shown in Figures 1 and 2, Kim teaches the encoder used to implement the mode method of Figure 4. Kim further teaches the connection of the encoder to a decoder as required by claim 15 (Paragraph [0003]).

[claim 17]

As shown above, Kim teaches the making of a mode decision for a second portion (full frames) of the video data based on a value of the feature in the second portion of the video (Paragraphs [0079]-[0085]). Note that Kim teaches multiple modes (intra/inter, integer-pixel resolution estimation/half-pixel resolution estimation, and motion vector values) all of which are determined initially for the first portion (down sampled frames) and used in the second portion (full frame) to encode the frame more efficiently.

### ***Allowable Subject Matter***

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 7-14 and 19-20 allowed.

The following is a statement of reasons for the indication of allowable subject matter:

As shown above Kim teaches a method for making a mode decision in video coding. Kim does not teach the calculating a likelihood ratio for a unit of the second portion of the video using the value of the feature. Kim further does not teach the selecting a hypothesis for the unit that is believed to be true and making the mode decision based on the selected hypothesis as required by dependent claim 5 and independent claims 7, 19 and 20. These features taken with the others in the claims teach over the prior art.

### ***Conclusion***

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

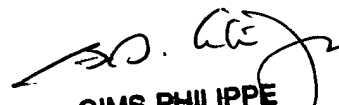
US Patent 6,507,616 to Ryu.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erick Rekstad whose telephone number is 571-272-7338. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER

